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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,704	03/29/2002	Markus Dillinger	1454.1215	8601

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EXAMINER	
AMINZAY, SHAIMA Q	
ART UNIT	**PAPER NUMBER**
2684	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/030,704	DILLINGER ET AL.	
	Examiner	Art Unit	
	Shaima Q. Aminzay	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 March 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The following office action is in response to Amendment, filed November 4, 2004.

Claims 22-56 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 22-40, and 43-56 are rejected under 35 U.S.C.103(a) as being unpatentable over Ahmed (Ahmed et al., U. S. Patent 5946346) in view of Jiang (Jiang et al. U. S. Patent 6535723 B1).

Regarding claims 22, 27, and 36, Ahmed teaches a method for controlling the transmitting power in a radio communications system (see for example, column 1, lines 6-9, method of controlling the transmitting power in a radio communication system (column 1, lines 28-33)), comprising: using an inner control loop to perform fast transmitting power control of at least one of a

subscriber station and a base station so as to vary power a transmitting power interval (see for example, Figures 3-4, column 6, lines 25-38 (discussed inter control loop threshold, Figure 3 (82)), and column 8, lines 37-48, Figure 4 describes Figure 3 and the fast transmitting power control using an inner control loop of a subscriber (including antenna 66, Figure 3) and a base station (including antenna 62, Figure 3) using the inner control loop (Figure 4, blocks 106-122) to perform fast transmission to a subscriber and as to vary power in a transmitting power interval), determining the transmitting power interval by the outer control loop using the outer control loop to perform slow transmitting power control in the base station (see for example, Figures 3-4, column 6, lines 57-64 (discussed outer control loop threshold, Figure 3 (86)), and column 8, lines 37-48, the transmitting power interval is determined by the outer control loop (Figure 4, blocks 124-134) using the outer control lop to perform slow transmitting power control in the base station (including antenna 62, Figure 3)).

However, Ahmed specifically does not teach enabling uplink from the subscriber station to the base station and downlink from the base station to the subscriber station.

Jiang teaches enabling uplink (Figure 3(240)) from the subscriber station (Figure 3(220)) to the base station (Figure 3(210)) and downlink (Figure 3(230)) from the base station to the subscriber station (see for example, Figure 3, column 5, lines 21-47).

It would have been obvious to one of ordinary skill in the art at the time

invention was made to combine Jiang's uplink and downlink transmission power control (see for example, column 4, lines 20-31) with Ahmed's transmission power control in a radio communication system (see for example, column 1, lines 5-9, 28-33, and 4, lines 37-46) to provide a communication system with power control involved in "tracking possible fading of communication channels and using that tracked fading to manage the power at which signals are being transmitted" and "use power control to improve system performance and increase system capacity" and to solve "problems by providing a variable power control scaling factor to the mobile station" (Ahmed, column 1, lines 13-19, and column 3, lines 60-61).

Regarding claims 23, 24, 26, 43, and 45, Ahmed in view of Jiang teach claim 22, 23, 44, and further, Ahmed teaches transmitting power interval is defined by a maximum transmitting power and a minimum transmitting power and the base station signals the subscriber station with the transmitting power interval or both a maximum transmitting power and a minimum transmitting power for the signal transmission in the uplink (see for example, Figure 9, column 12, lines 5-32, the transmitting power interval highest and lowest values (maximum and minimum), and column 7, lines 44-67 continued to column 8, lines 1-5, the highest and lowest power limits and uplink transmission).

Regarding claims 25, and 44, Ahmed in view of Jiang teach claim 22, 43, and

further, Ahmed teaches the parallel connections in at least one of a common frequency band and a common timeslot are dimensioned such that a predetermined dynamic range of a receiving device of the base station is not exceeded (see for example, all the user transmit traffic on the same frequency in CDMA system (see for example, column 1, lines 18-22) and the predetermined dynamic range of a receiving device (column 7, lines 1-32, and column 8, lines 37-48).

Regarding claims 28, 29, and 46, Ahmed in view of Jiang teach claim 22, 45, and further, Ahmed teaches the transmitting power interval is dimensioned in dependence on a speed of the subscriber station (see for example, column 6, lines 18-38, and 57-64, the transmitting power interval adjustment), and the transmitting power interval is progressively reduced with increasing communication speed of the subscriber station (see for example, column 7, lines 27-31, and 19-67, transmission power and increasing communication in traffic channel).

Regarding claims 30, and 47, Ahmed in view of Jiang teach claim 28, 29, and further, Ahmed teaches the speed of the subscriber station is estimated from measurements with respect to a variation of transmission characteristics of the radio interface (see for example, column 8, lines 57-67, the estimator 210 and the subscriber communication).

Regarding claims 31, and 48, Ahmed in view of Jiang teach claim 30, 47, and further, Ahmed teaches the bit error rate, a time frame error rate, a path attenuation interface (see for example, column 1, lines 57-62, path attenuation, and column 6, lines 1-10, lines 49-52, the time frame error and other errors).

Regarding claims 32, and 49, Ahmed in view of Jiang teach claim 30, 31, and further, Ahmed teaches the constant transmitting power by the base station is determined in the subscriber station (see for example, column 5, lines 39-42, and column 12, lines 29-30, the constant transmitting power is determined).

Regarding claims 33, 34, and 50, Ahmed in view of Jiang teach claim 30, 32, and further, Ahmed teaches the characteristic value is averaged over a particular time interval and corresponds to a periodicity of the slow transmitting power control (see for example, column 9, lines 57-62, column 10, lines 8-32, the characteristic value is averaged).

Regarding claims 35, 51, Ahmed in view of Jiang teach claim 30, 34, and further, Ahmed teaches the transmission characteristics of the radio interface determined drops below a predetermined threshold value (see for example, column 9, lines 1-8, the radio interface determined drops below the threshold value).

Regarding claims 37, and 52, Ahmed in view of Jiang teach claim 30, 36, and further, Ahmed teaches characteristic value is compared with a target characteristic value in the outer control loop and a difference between the values is calculated (see for example, column 7, lines 7-15, considering the threshold value for calculation).

Regarding claims 38, 39, Ahmed in view of Jiang teach claim 37, and further, Ahmed teaches the weighting factor to produce a weighted difference (see for example, column 8, lines 49-67, the weighting factor), and to the carrier signal (see for example, column 5, lines 49-51, and column 7, lines 27-33).

Regarding claim 40, Ahmed in view of Jiang teach claim 39, and further, Ahmed teaches wherein the outer control loop for the subscriber station is also implemented in the base station (see for example, Figures 3-4 (124-134), column 6, lines 57-64, and column 8, lines 37-48, outer control loop and subscriber station), and current target carrier/interference ratio is generated in the outer control loop from a current characteristic value (see for example, column 1, lines 57-62, and column 6, lines 1-10, lines 49-52), and the current characteristic value is determined by the subscriber station and signaled to the base station and the current target carrier/interference ratio is signaled to the subscriber station (see for example, column 1, lines 57-62, path attenuation, and column 6, lines 1-10, lines 49-52)

Regarding claim 53, Ahmed discloses a method for controlling the transmitting power in a radio communications system (see for example, column 1, lines 6-9, method of controlling the transmitting power in a radio communication system (column 1, lines 28-33)), comprising: varying the transmitting power of a subscriber station and/or a base station using an inner control loop constructed for fast transmitting power control within a transmitting power interval predetermined by an outer control loop constructed for slow transmitting power control (see for example, Figures 3 -4, column 6, lines 25-38, lines 57-64, column 7, lines 17-31, column 8, lines 37-48, column 9, lines 1-8, varying transmission power and control loop for fast transmitting power control using an inner control loop and predetermined interval and outer control loop for slow power transmitting power control), and wherein the transmitting power interval is defined in a base station system using the outer control loop for both an uplink from the subscriber station to the base station and for a downlink from the base station to the subscriber station (see for example, Figures 3 -4, column 6, lines 25-38, lines 57-64, column 7, lines 17-67, column 8, lines 37-48, column 9, lines 1-8, the transmitting power interval and base station as in Figure 4 including antenna 62 using the outer loop

Ahmed does not specifically teaches the uplink and downlink, however, Ahmed teaches the transmission power interval in a base station system using the outer loop for both the pilot and traffic signal are received by the subscriber

unit (down-link) and the processor sends power command to the base station (up-link) transmission (see for example, column 7, lines 17-55).

In a related art dealing with transmission power control in a radio communications system (see for example, column 1, lines 7-19, column 4, lines 20-31), Jiang teaches the uplink and downlink (see for example, Figure 3, column 5, lines 21-47, as shown in Figure 3, enabling uplink (240) from the subscriber station (220) to the base station (210) and downlink (230) from the base station to the subscriber station).

It would have been obvious to one of ordinary skill in the art at the time invention was made to include Jiang's uplink and downlink transmission power control with Ahmed's transmission power control in a radio communication system (see for example, column 1, lines 5-9, 28-33, and 4, lines 37-46) to provide a communication system with power control involved in "tracking possible fading of communication channels and using that tracked fading to manage the power at which signals are being transmitted" and "use power control to improve system performance and increase system capacity" and to solve "problems by providing a variable power control scaling factor to the mobile station" (Ahmed, column 1, lines 13-19, and column 3, lines 60-61).

Regarding claim 54, Ahmed in view of Jiang teach all the claimed limitation as recited in claim 53, and further, Ahmed teaches wherein the transmitting power interval of a number of subscriber stations having set up connections in parallel,

same frequency band and/or in same timeslot are dimensioned such that a predetermined dynamic range of a receiving device of the base station is not exceeded (see for example, column 1, lines 18-22, column 7, lines 1-32, and column 8, lines 37-48, all the user transmit traffic on the same frequency in CDMA system and the predetermined dynamic range of a receiving device)

Regarding claim 55, Ahmed in view of Jiang teach all the claimed limitation as recited in claim 53, and further, Ahmed teaches wherein a bit error rate, a time frame error rate, a path attenuation and/or an interference at a Location of the subscriber station is determined as a characteristic value for transmission characteristics (see for example, column 1, lines 57-62, path attenuation, and column 6, lines 1-10, lines 49-52, the time frame error and other errors).

Regarding claim 56, Ahmed in view of Jiang teach all the claimed limitation as recited in claim 55, and further, Ahmed teaches wherein an update of a dimensioning of the transmitting power interval is initiated when variation of transmission characteristics of a radio interface determined drops below a predetermined threshold value (see for example, column 9, lines 1-8, the radio interface determined drops below the threshold value).

2. Claims 41 and 42 are rejected under 35 U.S.C.103(a) as being unpatentable over Ahmed (Ahmed et al., U. S. Patent 5,946,346) in view of Jiang (Jiang et al.

U. S. Patent 6,535,723 B1), and further in view of Rashid-Farrokhi (Rashid-Farrokhi et al., U. S. Patent 6,377,812).

Regarding claims 41, and 42, Ahmed and Jiang teach claim 22. However, Ahmed and Jiang do not teach the TDD and FDD transmission.

Rashid-Farrokhi teaches the TDD and FDD transmission (see for example, column 2, lines 59-67 continued to column 3, lines1-7).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Rashid-Farrokhi's mobile communication system TDD and FDD functions with Jiang's uplink and downlink transmission power control (see for example, column 4, lines 20-31), and with Ahmed's transmission power control in a radio communication system (see for example, column 1, lines 5-9, 28-33, and 4, lines 37-46) to provide a communication system with power control involved in "tracking possible fading of communication channels and using that tracked fading to manage the power at which signals are being transmitted" and "use power control to improve system performance and increase system capacity" and to solve "problems by providing a variable power control scaling factor to the mobile station" (Ahmed, column 1, lines 13-19, and column 3, lines 60-61), and to provide an improved communication system with increased users capacity (Rashid-Farrokhi's, see for example, column 17, lines 3-7).

Response to Arguments

3. Applicant's arguments filed November 4, 2004 have been fully considered but they are not persuasive.

The applicant's argued features in the claims, i.e., "for controlling the transmitting power in a radio communications system" "using an inner control loop to perform fast transmitting power control of at least one of a subscriber station and a base station so as to vary power a transmitting power interval; determining the transmitting power interval by the outer control loop; using the outer control loop to perform slow transmitting power control in the base station, which enabling uplink from the subscriber station to the base station and downlink from the base station to the subscriber station" to be established read upon Ahmed (Ahmed et al., U. S. Patent 5946346) in view of Jiang (Jiang et al. U. S. Patent 6535723 B1) as follows.

Ahmed discloses a system for controlling the transmitting power in a radio communication system with an inner control loop to perform fast transmitting power control of a subscriber station and a base station and varying the power transmission interval, and using the outer control loop for performing slow transmitting power control and determining the transmitting power intervals.

Ahmed does not specifically teaches the uplink and downlink, however, Ahmed teaches the transmission power interval in a base station system using the outer loop for both the pilot and traffic signal are received by the subscriber unit (down-link) and the processor sends power command to the base station (up-link) transmission (see for example, column 7, lines 17-55). In a related art dealing with transmission power control in a radio communications system, Jiang teaches enabling uplink from the subscriber station to the base station and downlink from the base station to the subscriber station.

Ahmed and Jiang are analogous to the applicants teaching, that's why they do obviate.

Therefor, Examiner believes the claims are broad enough to include Jiang's uplink and downlink transmission power control into Ahmed's transmission power control in a radio communication system. The rejection is maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 703-305-8723. The examiner can normally be reached on 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745, the primary examiner, Nick Corsaro can be reached on 703-306-5616. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shaima Q. Aminzay
(Examiner)

NICK CORSARO
PRIMARY EXAMINER

Nay Maung
(SPE)
Art Unit 2684

April 14, 2005